Letter to the Editor

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TANAFFOS

Oxygenation Efforts for Iranian COVID-19 ARDS Patients: First 5-Day Crisis Experience Scenario

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To the Editors:

As of February 29, 2020, Coronavirus Disease 2019 (COVID-19) is spreading more quickly in the world than in China where the virus first emerged in the central city of Wuhan at the end of last year. Upon the death of two patients due to COVID-19 in Qom province 19 February 2020, Iran officially announced the virus had been identified in the country. On 20 February 2020, the first COVID-2019 infected patient was confirmed in Tehran at Masih Daneshvari Hospital; our critical care team was involved in that determination. We also reported an additional 7 patients, all male, which were admitted to the ICU.

The patients' BMI mean was 32.3±4.31 kg/m^2, with ages ranging from 25 to 60 years. Several methods were utilized for oxygenation related to condition patients including: Conventional Mask (CM), Reservoir Mask (RM), Non-Invasive Ventilation (NIV) and Nasal High Flow (NHF) (1). We tried to postpone the intubation regarding to the clinical mastication patients as much as possible. Patients can be difficult to intubate because of anatomy or circumstances surrounding the intubation (2). Out of 7 patients, 2 patients were intubated (Figure 1). The decision for intubation must take into account their complicated conditions, and also consideration of airway management skills and experience with intubators. It was not possible to use CM and RM (Figure 2). An abnormality was seen in chest radiographs of these 2 patients (Figure 3), and they finally died at the end of fifth day. Patient 3 had the best response to the treatment and in the third day while using CM, he was discharged from the ICU to the floor. For 4 other patients, NHF or NIV was replaced by CM and RM during the time. ARDS criteria, Berlin score, also improved after the first day to the fifth day, so that severe ARDS proportion was decreased from 40% to 25% and 25% of patients in the fifth day were experienced a mild Berlin score (Figure 1).

Common signs of COVID-19 include respiratory symptoms, fever, cough and shortness of breath and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death (3). A difficult airway carries significant risk for serious COVID-19 infected patients. As airway experts, we strived to do the best for each patient. However, given all 7 patients were overweight, the use of continuous HFNC compared with

intermittent NIV did not result in a worse rate of treatment failure. Because HFNC presents some advantages, it may be used instead of NIV (4).

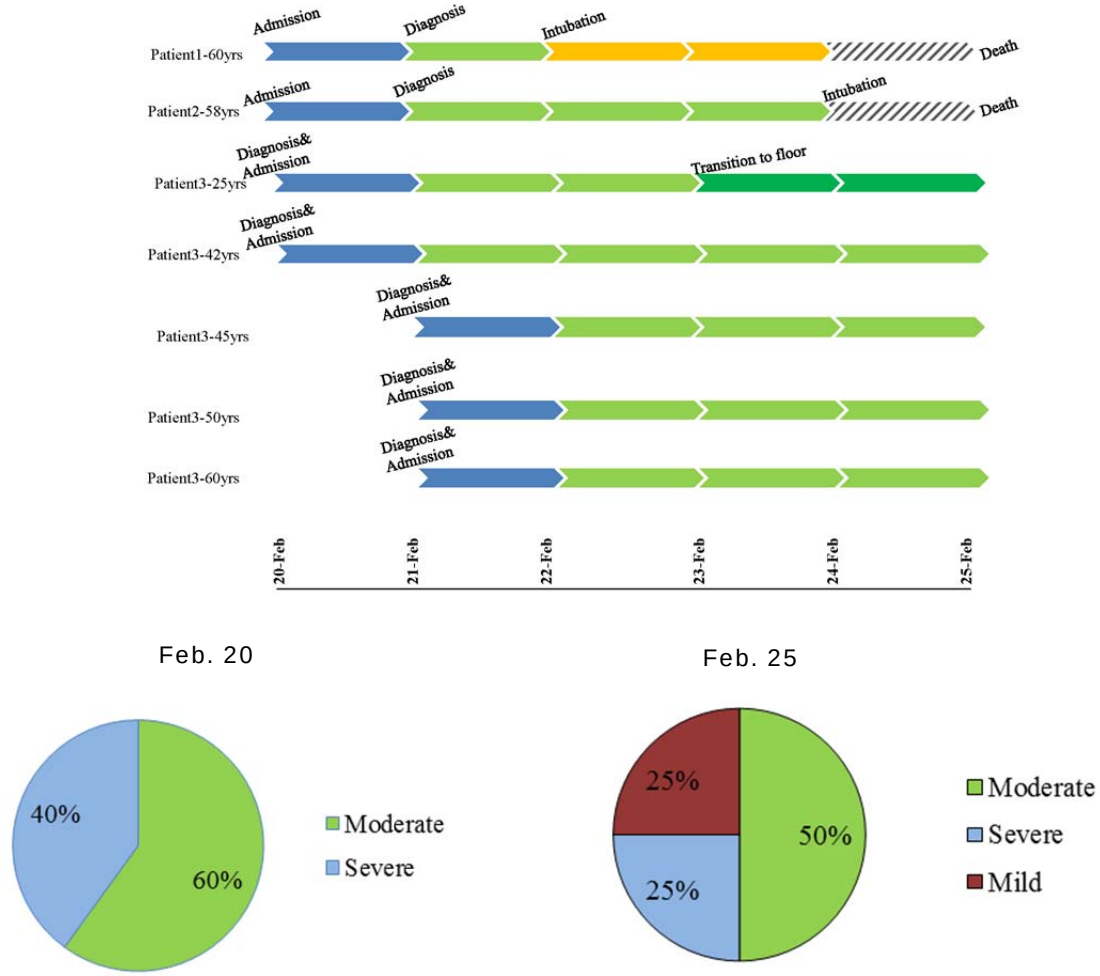

Figure 1. Timeline of diagnosis and treatment of COVID-19 infected patients and Berlin ARDS score categories at first and end of duration

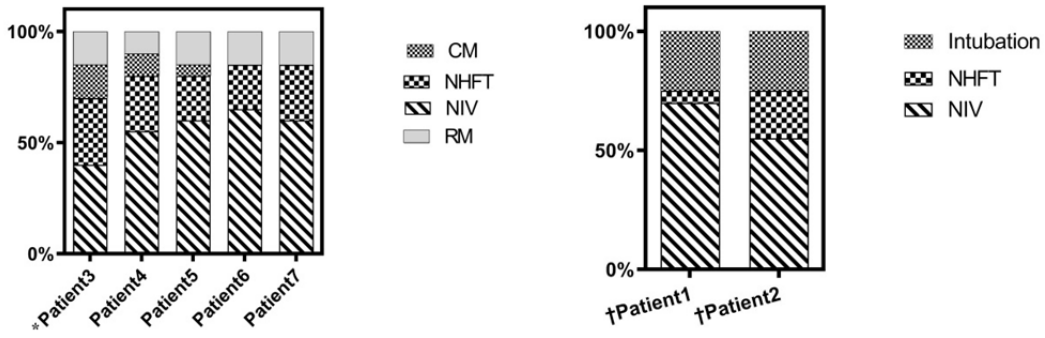

Figure 2. Oxygenation types apply for alive (Left) and dead (Right) patients during 20 to 25 February,

†: Death, * Transition to floor

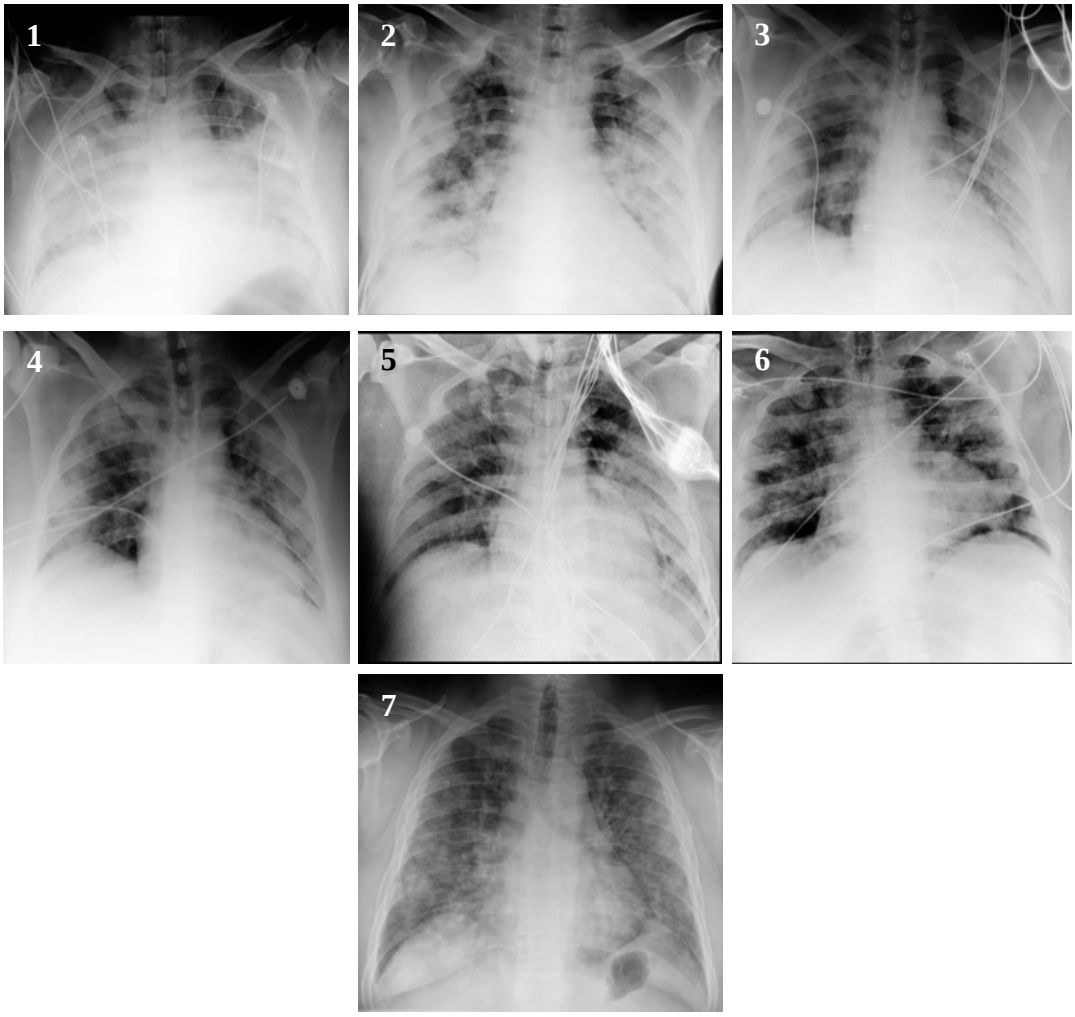

Figure 3. Chest Radiographs of 7 Patients at the first day admission in ICU.

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